

Replace the paragraph beginning at page 2, line 15 with the following rewritten paragraph:

A2  
--According to another aspect of the invention, a block diagram modeling process includes providing a first block and a second block, the blocks representing functional entities, generating a plurality of output signal values from the first and second block, grouping the plurality of output signal values as an ordered set in a multiplexer as a first composite signal and processing the composite signal in a third block.--

Replace the paragraph beginning at page 2, line 26 with the following rewritten paragraph:

A3  
--The process further includes decomposing the composite signal into a plurality of input signal values.--

Replace the paragraph beginning at page 3, line 6 with the following rewritten paragraph:

A4  
--In another aspect, the invention features a computer program product residing on a computer readable medium having instructions stored thereon which, when executed by the processor, cause the processor to provide a plurality of blocks, each of the blocks representing functional entities, generate a plurality of output signal values from the plurality of blocks, group the plurality of output signal values as an ordered set in a multiplexer as a first composite signal and output the first composite signal.--

Replace the paragraph beginning at page 3, line 20 with the following rewritten paragraph:

A5  
--In another aspect, the invention features a processor and a memory configured to provide a plurality of blocks, each of the blocks representing functional entities, generate a plurality of output signal values from the plurality of blocks, group the plurality of output signal values as an ordered set in a multiplexer as a first composite signal and output the first composite signal.--

Replace the paragraph beginning at page 10, line 3 with the following rewritten paragraph:

A6

--Referring to FIG. 4, a tree structure 76 is shown illustrating one representation of the two composite signals  $c_1$  and  $c_2$ . The tree data structure 76 contains five nodes, one node for each signal, i.e.,  $s_1$ ,  $s_2$ ,  $s_3$ ,  $c_1$  and  $c_2$ . The link between two signals, represented by an arrowhead line, indicates a grouping relationship. Specifically, the four links (i.e., arrowhead lines) coming from composite signal  $c_2$  indicate a grouping of four signals in composite signal  $c_2$  while the two links coming from composite signal  $c_1$  indicate a grouping of two signals in composite signal  $c_1$ . The link from composite signal  $c_2$  to single signal  $s_1$  indicates that composite signal  $c_2$  contains single signal  $s_1$ . Likewise, the two links from composite signal  $c_2$  to single signal  $s_2$  indicate that composite signal  $c_2$  contains two  $s_2$  single signals. The link from composite signal  $c_2$  to composite signal  $c_1$  indicates the composite signal  $c_2$  also includes composite signal  $c_1$ . Completing the example, the link from composite signal  $c_1$  to single signal  $s_2$  indicates that composite signal  $c_1$  includes single signal  $s_2$  and the link from composite signal  $c_1$  to single signal  $s_3$  indicates that composite signal  $c_1$  also includes single signal  $s_3$ . The links are ordered left to right using black dots to preserve signal orders in the composite signals. Thus, the order of the black dots under composite signal  $c_2$  indicates that its constituent signals are ordered as single signal  $s_1$ , single signal  $s_2$ , single signal  $s_2$  and composite signal  $c_1$ . The order of black dots under composite signal  $c_1$  indicates that its constituent signals are ordered as single signal  $s_3$  and single signal  $s_2$ .--

In the claims:

Amend claims 1, 2, 3, 14, 16, 21, 25, 29, 33 and 24 as follows:

A7

1. (Amended) A modeling process comprising:

- providing a plurality of blocks, each of the blocks representing functional entities;
- generating a plurality of output signal values from the plurality of blocks;
- grouping the plurality of output signal values as an ordered set in a multiplexer as a first composite signal; and
- outputting the first composite signal.